Request For Action	RFA Number: 1
RFA Date:	Nov. 24, 2003
Project:	GLAST
System:	GLAST Science Support Center (GSSC)
Review:	Design Peer Review
Review Date:	November 24, 2003
Originator:	Frank Marshall, Robert Schweiss
Discrepancy/ Problem:	There are no plans for any subsequent reviews focused on the GSSC. Reviews of the overall ground system typically concentrate on the MOC. Also, missing TRR schedules for SSC.
Recommended Action:	Consider having independent review(s) of the GSSC shortly before major reviews of the entire ground system. Also add a TRR(s) to the SSC schedules.
Assignee:	
RFA Response:	

Request For Action	RFA Number: 2
RFA Date:	Nov. 24, 2003
Project:	GLAST
System:	GLAST Science Support Center (GSSC)
Review:	Design Peer Review
Review Date:	November 24, 2003
Originator:	Frank Marshall

Discrepancy/ Problem:	GLAST FTOOLS will only be tested on 2 platforms (LINUX and Windows) instead of the usual FTOOLS platforms. This restriction will make it more difficult for some astronomers to use GLAST data. Extending the supported platforms beyond LINUX and Windows usually does not require much effort. The GSSC plans to release the GLAST FTOOLs from its own Web site. They will also be available from the HEASARC site. This may create problems of multiple versions of tools.
Recommended Action:	Extend the supported platforms to the usual list for FTOOLS. Have the FTOOLs distributed only from the HEASARC web site.
Assignee:	
RFA Response:	

Request For Action	**RFA Number: 3**
RFA Date:	Nov. 24, 2003
Project:	GLAST
System:	GLAST Science Support Center (GSSC)
Review:	Design Peer Review
Review Date:	November 24, 2003
Originator:	Frank Marshall
Discrepancy/ Problem:	Putting GSSC operations computers in Building 2 may create reliability and security problems. Locating the Burst Alert Processor (BAP) in the MOC may create problems in system administration for the computer and make upgrading the software more difficult.

Recommended Action:	Consider putting machines in the MOC (presumably outside the MOC firewall). Consider a design with the BAP located in Building 2 where the GCN is located.
Assignee:	
RFA Response:	

Request For Action	**RFA Number: 4**
RFA Date:	Nov. 24, 2003
Project:	GLAST
System:	GLAST Science Support Center (GSSC)
Review:	Design Peer Review
Review Date:	November 24, 2003
Originator:	Frank Marshall, Joy Henegar
Discrepancy/ Problem:	The ground system lacks an end-to-end method for tracking data as it flows through the processing system. Data may be lost without anyone realizing it. End-to-end data accountability approach is not clear.
Recommended Action:	Establish an accounting system that tracks data. Please document the end-to-end approach. Need to ensure all requirements have been defined and allocated to the various ground system elements. This may be a ground system RFA as it pertains to elements outside the GSSC.
Assignee:	
RFA Response:	

Request For Action	RFA Number: 5
RFA Date:	24 Nov 2003
Project:	GLAST
System:	GLAST Science Support Center (GSSC)
Review:	Design Peer Review
Review Date:	November 24, 2003
Originator:	Seth Digel
Discrepancy/ Problem:	DTS was mentioned several times as the preferred method for transferring data products to and from the GSSC. Although it is in use for XMM and apparently will be used for Swift, some programmers working on LAT software have reservations about the security of DTS.
Recommended Action:	Schedule a meeting between Dave Davis, Masa Hirayama, Navid Golpayegani, and Alex Schlessinger to discuss the security issues and resolve whether DTS will be used for transfers of data products from the LAT ISOC. If not, an acceptable alternative needs to be identified, of course.
Assignee:	
RFA Response:	

Request For Action	RFA Number: 6
RFA Date:	Nov. 24, 2003
Project:	GLAST
System:	GLAST Science Support Center (GSSC)
Review:	Design Peer Review
Review Date:	November 24, 2003
Originator:	Norman Rioux
Discrepancy/ Problem:	At the review some allusion was made to the inadequacy of the security requirements in the MSS.

Recommended Action:	Review the security requirements in the MSS as they relate to the ground system. Determine any inadequacies with respect to Goddard or NASA guidelines and requirements. Propose any RFAs necessary to address inadequacies. Submit RFAs into the CM system.
Assignee:	Mike Rackley
RFA Response:	

Request For Action	**RFA Number: 6**
RFA Date:	Nov. 24, 2003
Project:	GLAST
System:	GLAST Science Support Center (GSSC)
Review:	Design Peer Review
Review Date:	November 24, 2003
Originator:	Frank Marshall, Robert Schweiss
Discrepancy/ Problem:	The NSSDC, IOCs, and the GSSC are all archiving the Level 0 data. This redundant responsibility is wasteful.
Recommended Action:	Consider having the GSSC archive the Level 0 data for a limited duration such as 6 or 12 months. Few requests for these data are expected once the data have been successfully processed into Level 1 data.
Assignee:	
RFA Response:	

Request For Action	**RFA Number: 8**
RFA Date:	12-1-03
Project:	GLAST
System:	GLAST Science Support Center (GSSC)

Review:	Design Peer Review
Review Date:	November 24, 2003
Originator:	M. Corcoran, Frank Marshall, Norman Rioux, Robert Schweiss
Discrepancy/ Problem:	Requrements Issues: The specification of GSSC requirements is incomplete in at least the areas of observing plan evaluation, user help, and support of LAT science software development. Although the GSSC is required to maintain the backup pipeline processing system, there is no requirement on the LIOC or GIOC to deliver and support the system. The burden on the GSSC of changing the timeline if a GRB or TOO occurs should be quantified. There should be a response time requirement on responses from the help desk, along with some mechanism to verify that all received help desk e-mails were responded to within this time. Requirements to capability exercise should be completed., eg. The help desk, page 9 of Web interface has no apparent requirement.
Recommended Action:	There should be a review of GSSC requirements to make sure that the responsibilities of the GSSC are well understood. Update the requirements flowdown report, including flowdown of requirements from the SRD, MSS, and ops concept document. Also produce an orphan requirements report for ground system requirements documents. Produce a plan for working off open issues. Add a Project-level requirement covering the creation and maintenance of the backup processing system. The limiting burst flux along with the expected frequency of such bursts should be clearly identified in an appropriate document (like the GSSC FRD). Also contingencies should be spelled out in case the frequency of GRBs or TOOs is exceeded. The GSSC should develop a mechanism for verification of response times, and this time should be explicitly included in the GSSC FRD Complete requirements to capability exercise, generate requirements as necessary and mark non-requirements as such.
Assignee:	

RFA Response:	

Request For Action	**RFA Number: 9**
RFA Date:	11/24/03
Project:	GLAST
System:	GLAST Science Support Center (GSSC)
Review:	Design Peer Review
Review Date:	November 24, 2003
Originator:	Chris Shrader, Bill Paciesas
Discrepancy/ Problem:	The software testing plan includes no participation outside the GSSC*. Personnel involved in software verification testing may not be sufficiently independent of the developers. * This model was largely followed by the INTEGRAL Science Data Center, resulting in lots of problems.
Recommended Action:	At least, the software management plan should specify that the test manager be someone who is not a designer or developer of GSSC software. Also, this plan should define the makeup of a test team that should be as independent as possible of the developers (e.g., developers of a given subsystem should not write or conduct parts of procedures that involve their own subsystem). Include external participation, by individuals experienced analyzing EGRET data.
Assignee:	
RFA Response:	

Request For Action	**RFA Number: 10**
RFA Date:	Nov. 24, 2003
Project:	GLAST
System:	GLAST Science Support Center (GSSC)
Review:	Design Peer Review

Review Date:	November 24, 2003
Originator:	Bill Paciesas, Frank Marshall
Discrepancy/ Problem:	List of issues and trade studies did not have schedules for decisions, responsibility assignments, etc. For example, no date has been established for deciding if Tako can support science planning for GLAST. If it cannot, a substantial development effort may be required.
Recommended Action:	Track as action items either at GSSC level or Ground System level, depending on affected entities. In particular, establish a plan for evaluating Tako and a date for deciding whether it will be used by GLAST.
Assignee:	
RFA Response:	

Request For Action	**RFA Number: 11**
RFA Date:	Nov. 24, 2003
Project:	GLAST
System:	GLAST Science Support Center (GSSC)
Review:	Design Peer Review
Review Date:	November 24, 2003
Originator:	Bill Paciesas
Discrepancy/ Problem:	GSSC functions have not been officially reviewed for ITAR/EAR restrictions.
Recommended Action:	Have someone with appropriate expertise review all GSSC functions/documentation plans and identify any ITAR/EAR restrictions.
Assignee:	
RFA Response:	

Request For Action	**RFA Number: 12**
RFA Date:	Nov. 24, 2003

Project:	GLAST
System:	GLAST Science Support Center (GSSC)
Review:	Design Peer Review
Review Date:	November 24, 2003
Originator:	Padi Boyd, Seth Digel, Chris Shrader
Discrepancy/ Problem:	The interface between the GSSC and the HEASARC does not seem to follow earlier models in critical areas such as: FITS file definitions, staging of science data and products for community. For data retrieval it seems unnecessarily complicated for users to get their data via the GSSC interface initially, and then from the HEASARC at later times. If there is a good reason for having this system then there should be no burden on the end user to learn two different systems. The current archive interface is apparently not compatible with W3Browse. It will be easier to build in compatibility now at the developmental stage, than later once an evolved system is in place. CGRO went down a similar path, and it required extensive effort at the latter stages of the mission to redesign the archive for W3browse compatibility, and eventual handover to the HEASARC.
Recommended Action:	Establish dialog with the HEASARC on these issues. Make sure that the HEASARC is in agreement for the data and software release mechanisms planned by the GSSC. Make sure that the design of the tools that retrieve data have the same look and feel when operating through the GSSC Website and the HEASARC Web site. Assure that the change in location of the data is transparent to the user. Identify which of the 31 or so databases that the GSSC has identified as relevant to the holdings for the mission will be made available via HEASARC's Browse service.
Assignee:	
RFA Response:	

Request For Action	**RFA Number: 13**
RFA Date:	Nov. 24, 2003
Project:	GLAST
System:	GLAST Science Support Center (GSSC)
Review:	Design Peer Review

Review Date:	November 24, 2003
Originator:	Padi Boyd, Chris Shrader
Discrepancy/ Problem:	Calibration product delivery schedule hasn't been thought out with respect to making simulation software available to Guest Investigators for Cycle 1. It was noted that exposure/sensitivity calculations would be implemented under the HEASARC's "PIMMS" software. This will require substantial modification to that software, as it currently deals with background-subtracted or simple, constant-model backgrounds. GLAST has a structured (i.e. spatial and energy dependent) background, which will likely require a major re-write. The HEASARC is generally resistant to support gamma-ray specific software changes.
Recommended Action:	A schedule for the delivery of calibration data and software tools should precede development of mature GI support materials. Get the interfaces between the GSSC and the instrument teams—regarding responsibilities for software, FITS file delivery, OGIP-compliant calibration files—understood and in writing early. The Swift Science Center has run into problems because some of these responsibilities weren't spelled out clearly early on. A more sophisticated simulation software (such as the one discussed) should be emphasized. (I found the criticisms of this, based on lack of detailed prior knowledge of pointing strategies rather nitpicking).
Assignee:	
RFA Response:	

Request For Action	**RFA Number: 14**
RFA Date:	12-1-03
Project:	GLAST
System:	GLAST Science Support Center (GSSC)
Review:	Design Peer Review
Review Date:	November 24, 2003
Originator:	M. Corcoran

Discrepancy/ Problem:	The size of the staging area for users of the GLAST archive needs to be defined, and a contingency plan needed to deal with problems if the stage disk fills up. The impact of filling the stage disk on access to GLAST data needs to be addressed
Recommended Action:	The size of the staging area should be defined based on a reasonable usage expectations, and a contingency plan for a full disk condition should be constructed and documented.
Assignee:	
RFA Response:	

Request For Action	**RFA Number: 15**
RFA Date:	12-01-03
Project:	GLAST
System:	GLAST Science Support Center (GSSC)
Review:	Design Peer Review
Review Date:	November 24, 2003
Originator:	M. Corcoran, Frank Marshall
Discrepancy/ Problem:	Searches of the GLAST archive need to be reproducible; this is a problem for GLAST since the photons stored in the archive are not static but may change with reprocessings. This is also a problem since derived calibration products like IRFs will depend on photon properties and hence on processing software.

Recommended Action:	Photons should be uniquely identified by version of processing software which was used, and some mechanism should be determined to allow an archive user to run the same query on two different dates and to get the same set of photons. Consider adding 1) ability to select data by processing version ID and 2) keeping earlier versions of data in data base.
Assignee:	
RFA Response:	

Request For Action	**RFA Number: 16**
RFA Date:	11/24/03
Project:	GLAST
System:	GLAST Science Support Center (GSSC)
Review:	Design Peer Review
Review Date:	November 24, 2003
Originator:	Chris Shrader, Padi Boyd
Discrepancy/ Problem:	The NRA cycle-1 as I understand solicits proposals for funding only (i.e. no specific pointing strategies can be requested). It was stated that the peer-review will be separated in to two stages, the second stage being a budget review. What precisely, then, is the first stage peer review reviewing? Don't the real decisions (i.e. selected or not) need to be tied inexorably to the budget numbers?
Recommended Action:	Think this through more carefully. Consider adopting the approach used for the Swift GI program described in ROSS_03, which uses a one-stage review where proposals are graded on scientific merit and a budget allocation is decided at the same review.
Assignee:	

RFA Response:	

Request For Action	**RFA Number: 17**
RFA Date:	24 Nov 2003
Project:	GLAST
System:	GLAST Science Support Center (GSSC)
Review:	Design Peer Review
Review Date:	November 24, 2003
Originator:	Seth Digel
Discrepancy/ Problem:	The design of the D1 database includes no provision for proprietary protection of data. This is entirely consistent with current mission policy, but there's a chance that this could be revised to be consistent with the practice for every other observatory-class mission.
Recommended Action:	The GSSC would be well advised to at least consider how proprietary access restrictions (based on time and region of the sky) could be implemented. The most important point is to verify that the current design doesn't in some way preclude a retrofit for this capability. A simpler but relevant consideration is how the sky survey data will be protected during the early part of Phase 2. In what looks like compromise planning-by-committee, the sky survey data must be released by 3 months into Phase 2. Data delivery to the GSSC should start considerably before this time, but the LAT team may want to hold to that release date. In the meantime, data taken during Phase 2 will be streaming into D1 and released right away.
Assignee:	
RFA Response:	

Request For Action	**RFA Number: 18**

RFA Date:	Nov. 24, 2003
Project:	GLAST
System:	GLAST Science Support Center (GSSC)
Review:	Design Peer Review
Review Date:	November 24, 2003
Originator:	Norman Rioux
Discrepancy/ Problem:	Chart 3 in section VII Test Plan lists definitions of verification methods that are not the same as those listed in the NASA Systems Engineering Handbook for Test Analysis and Inspection and Demonstration.
Recommended Action:	Declare the NASA Systems Engineering Handbook as the defining reference for Test, Analysis, Inspection and Demonstration. Apply this reference uniformly across the ground system elements and system verification program.
Assignee:	Mike Rackley and David Band
RFA Response:	

Request For Action	**RFA Number: 19**
RFA Date:	Nov. 24, 2003
Project:	GLAST
System:	GLAST Science Support Center (GSSC)
Review:	Design Peer Review
Review Date:	November 24, 2003
Originator:	Robert Schweiss
Discrepancy/ Problem:	Operations Documentation Holes: GSSC Presentations, GSSC Development Plan, Page 9, is missing critical design document called “operations concept” or “concept ops”. There was no discussion of operations staffing requirements except for one slide in s.w scheduling and planning. No discussion of SPRS or Operator User’s Guide.
Recommended Action:	The Requirements documents are short of understanding how the system will operate, hence an operations concept document needs to be added. Define operations staff for all of SSC (not just sw scheduling and planning). Add SPRS and Operator User’s Guide to documents list.
Assignee:	David Band

RFA Response:	